

## CLAIMS

1. A spectroscopic probe, comprising:  
an optical input port for receiving illuminating  
5 light;  
a sampling port, for illuminating a sample with the  
illuminating light and collecting light scattered by the  
sample;  
an optical output port for outputting scattered light  
10 received from the sampling port; and  
a block of transparent material, having two opposed  
angled faces for reflection of light from one to the other  
within the block, light passing through the block between  
the optical input port, the sampling port and the optical  
15 output port;  
wherein the light between the sampling port and one of  
the input and the output ports is reflected between said  
opposed angled faces of the block.
- 20 2. A spectroscopic probe according to claim 1, including  
optical fibres connected to the input and output ports, for  
delivering the illuminating light and receiving the  
scattered light respectively.
- 25 3. A spectroscopic probe according to claim 1 or claim 2,  
wherein at least one of said angled faces has a reflecting  
or partially reflecting coating.
- 30 4. A spectroscopic probe according to claim 3, wherein  
said coating on at least one of the angled faces is a  
dichroic filter coating which reflects light of a first  
wavelength (or range of wavelengths) and transmits light of  
a second wavelength (or range of wavelengths).

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5. A spectroscopic probe according to claim 3 or claim 4, wherein the other of said angled faces has a reflecting or partially reflecting coating.

6. A spectroscopic probe according to any one of the preceding claims, wherein said ports comprise lenses.

7. A spectroscopic probe according to claim 6, wherein the lenses are GRIN lenses.

8. A component for a spectroscopic probe, comprising a block of transparent material, having two angled faces for reflection of light from one to the other within the block, for reflecting light between a sampling port and an input or output port of the spectroscopic probe.

9. A component according to claim 8, wherein at least one of said angled faces has a reflecting or partially reflecting coating.

10. A component according to claim 9, wherein said coating on at least one of the angled faces is a dichroic filter coating which reflects light of a first wavelength (or range of wavelengths) and transmits light of a second wavelength (or range of wavelengths).

11. A component according to claim 9 or claim 10, wherein the other of said angled faces has a reflecting or partially reflecting coating.

12. A method of making a component for a spectroscopic probe, the component comprising a block of transparent material, having at least one angled face for reflecting light;

the method comprising the steps of:  
taking a sheet of transparent material, the sheet  
having a face; and

- cutting said component from the sheet with a cut which  
5 is at an angle to said face, thereby producing said block  
with at least one angled face.

13. A method according to claim 12, wherein said face of  
the sheet is coated with a reflecting or partially  
10 reflecting coating, prior to the cutting step, whereby the  
angled face in the resulting component is provided with  
said coating.

14. A method according to claim 13, wherein the coating is  
15 a dichroic filter coating which reflects light of a first  
wavelength (or range of wavelengths) and transmits light of  
a second wavelength (or range of wavelengths).

15. A method according to claim 13 or claim 14, wherein an  
opposing face of the sheet is also coated with a reflecting  
or partially reflecting coating, prior to the cutting step,  
thereby producing a second angled face with a said coating  
in the resulting component, opposing the first-mentioned  
20 angled face.

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16. A method according to any one of claims 12 to 15,  
including the step of removing a prism-shaped section from  
the angled face of the block.